



JUL 10 1997

07/08/97

Technical Report for

Conestoga-Rovers & Associates

Playfield Plaza

9117

Accutest Job Number: E23143

VALIDATED DATA

Project # 9117

Tech Report # E23143

(b) (6), (b) (7)

Initials (C)

Date 7/14/97

Report to:

Conestoga-Rovers & Associates, Inc.
8615 West Bryn Mawr Avenue
Chicago, IL 60631

ATTN: (b) (6), (b) (7)(C)

Total number of pages in report: 11

CHECKED AGAINST PRELIMINARY DATA	
Date	7/10/97
(b) (6), (b) (7)	
Initials	(C)

(b) (6), (b) (7)(C)

President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, KS, MA, MD, NC, PA, RI, SC, VA
Results relate only to the items tested.

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.



Sample Summary

Conestoga-Rovers & Associates

Date: 07/08/97
Job No: E23143

Playfield Plaza

Project No: 9117

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
E23143-1	06/30/97	09:47 KD	07/01/97	DW Drinking Water	W-9117-063097-SW-0001
E23143-2	06/26/97	15:10 JC	07/01/97	DW Drinking Water TB	TRIP BLANK



Report of Analysis

Page 1 of 1

Client Sample ID: W-9117-063097-SW-0001
Lab Sample ID: E23143-1
Matrix: DW - Drinking Water
Method: EPA 524.2
Project: Playfield Plaza

Date Sampled: 06/30/97
Date Received: 07/01/97
Percent Solids: n/a

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	J14170.D	1	07/01/97	AAA	n/a	n/a	VJ641

VOA Special List

CAS No.	Compound	Result	MCL	RDL	Units	Q
75-34-3	1,1-Dichloroethane	ND		0.17	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.11	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.25	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	10	0.27	ug/l	
156-69-4	cis-1,2-Dichloroethylene	3.0	10	0.27	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.32	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.17	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	68%		61-118%
460-00-4	4-Bromofluorobenzene	72%		65-116%

2

ND = Not detected

J = Indicates an estimated value

MCL = Maximum Contamination Level

B = Indicates that analyte is found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



Report of Analysis

Page 1 of 1

Client Sample ID: TRIP BLANK

Lab Sample ID: E23143-2

Date Sampled: 06/26/97

Matrix: DW - Drinking Water TB

Date Received: 07/01/97

Method: EPA 524.2

Percent Solids: n/a

Project: Playfield Plaza

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	J14171.D	1	07/01/97	AAA	n/a	n/a	VJ641

VOA Special List

CAS No.	Compound	Result	MCL	RDL	Units	Q
75-34-3	1,1-Dichloroethane	ND		0.17	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.11	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.25	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	10	0.27	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	10	0.27	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.32	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.17	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	74%		61-118%
460-00-4	4-Bromofluorobenzene	74%		65-116%

ND = Not detected

J = Indicates an estimated value

MCL = Maximum Contamination Level

B = Indicates that analyte is found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

GC/MS Analysis Case Narrative/Conformance/Non-Conformance Summary

Fraction: Volatile

NO YES

1. Chromatograms Labeled/Compounds Identified. (*Field Samples and Method Blanks*)
2. GC/MS Tune Meet Criteria.
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.
4. GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of samples analysis for 600 series and 12 hours for 8000 series.
5. GC/MS Calibration Requirements
 - a. Calibration Check Compounds
 - b. System Performance Check Compounds
6. Blank Contamination

If yes, list compounds and in each blank: _____

7. Surrogate Recoveries Meets Criteria.

If not met, list those samples which fall outside the acceptable range and confirmed by reanalysis: _____

8. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria.

If not met, refer to MS/MSD and blank spike summaries: See MS/MSD 9. Summary. _____

9. Internal Standard Area/Retention Time Shift Meet Criteria

If not met, list those samples which fall outside the acceptable range and confirmed by reanalysis: _____

10. Extraction Holding Time Met

If not met, list number of days exceeded for each samples: _____

11. Analysis Holding Time Met

If not met, list number of days exceed for each sample: _____

Additional Comments: _____

QC Review Signature: _____

(b) (6), (b) (7)(C)

Date:

7/18/07

4

GC/MS METHODOLOGY SUMMARY FOR EPA 524

This method is referenced from "Method For The Determination Of Organic Compounds In Drinking Water," December 1988.

VOLATILE ORGANIC BY EPA 524

This method can be summarized as follows: An inert is bubbled through a sample aliquot to transfer the purgeables from the aqueous phase to the vapor phase. The vapor phase is swept through a specially designed sorbent trap where the purgeables are trapped. After an eleven minute purge time the trap is heated to 180° C and backflushed with the inert gas to desorb the purgeables onto the gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected by a mass spectrometer.

A computer system is used to compare any detected peaks by the retention time and the relative abundance of three characteristic masses for qualitative identification. Quantitative analysis is performed using internal standard techniques with a single characteristic mass. All results are then reviewed by trained analysts to further validate the data. For library searches, the unidentified mass spectra is qualitatively compared to a computer driven NBS library of approximately 40,000 compounds. These unknown peaks are then qualified for an estimated concentration by external standard technique comparing unknown peak response to an internal standard response of known concentration.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: E23143

Account: CRAIL Conestoga-Rovers & Associates

Project: Playfield Plaza

Method: EPA 524.2

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
E23143-1	J14170.D	68.0	72.0
E23143-2	J14171.D	74.0	74.0
E23143-1MS	J14183.D	98.0	100.0
E23143-1MSD	J14184.D	106.0	108.0
VJ641-BS	J14182.D	104.0	94.0
VJ641-MB1	J14169.D	74.0	84.0
VJ641-MB2	J14179.D	84.0	86.0

Surrogate
Compounds

Recovery
Limits

S1 = 1,2-Dichlorobenzene-d4

61-118%

S2 = 4-Bromofluorobenzene

65-116%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: E23143

Account: CRAIL Conestoga-Rovers & Associates

Project: Playfield Plaza

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
E23143-1MS	J14183.D	1	07/02/97	AAA	n/a	n/a	VJ641
E23143-1MSD	J14184.D	1	07/02/97	AAA	n/a	n/a	VJ641
E23143-1	J14170.D	1	07/01/97	AAA	n/a	n/a	VJ641

The QC reported here applies to the following samples:

Method: EPA 524.2

E23143-1, E23143-2

CAS No.	Compound	E23143-1 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	ND	5	4.0	80	4.4	88	10	70-130/30
75-35-4	1,1-Dichloroethylene	ND	5	2.7	54*	3.5	70	26	70-130/30
107-06-2	1,2-Dichloroethane	ND	5	5.8	116	6.2	124	7	70-130/30
156-60-5	trans-1,2-Dichloroethylene	ND	5	3.1	62*	3.3	66*	6	70-130/30
156-69-4	cis-1,2-Dichloroethylene	3	5	6.8	76	6.7	74	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	5	3.3	66*	3.5	70	6	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	5	4.5	90	5.0	100	10	70-130/30
127-18-4	Tetrachloroethylene	ND	5	3.0	60*	3.2	64*	6	70-130/30
79-01-6	Trichloroethylene	ND	5	3.8	76	3.8	76	0	70-130/30
75-01-4	Vinyl chloride	ND	2	1.0	50*	1.6	80	46*	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	E23143-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	98%	106%	68%	61-118%
460-00-4	4-Bromofluorobenzene	100%	108%	72%	65-116%

Blank Spike Summary

Page 1 of 1

Job Number: E23143

Account: CRAIL Conestoga-Rovers & Associates

Project: Playfield Plaza

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ641-BS	J14182.D	1	07/02/97	AAA	n/a	n/a	VJ641

The QC reported here applies to the following samples:

Method: EPA 524.2

E23143-1, E23143-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	5	5.8	116	70-130
75-35-4	1,1-Dichloroethylene	5	5.3	106	70-130
107-06-2	1,2-Dichloroethane	5	6.2	124	70-130
156-60-5	trans-1,2-Dichloroethylene	5	4.6	92	70-130
156-69-4	cis-1,2-Dichloroethylene	5	5.5	110	70-130
71-55-6	1,1,1-Trichloroethane	5	5.9	118	70-130
79-00-5	1,1,2-Trichloroethane	5	5.7	114	70-130
127-18-4	Tetrachloroethylene	5	5.6	112	70-130
79-01-6	Trichloroethylene	5	5.6	112	70-130
75-01-4	Vinyl chloride	2	2.0	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	104%	61-118%
460-00-4	4-Bromofluorobenzene	94%	65-116%

Method Blank Summary

Page 1 of 1

Job Number: E23143

Account: CRAL Conestoga-Rovers & Associates

Project: Playfield Plaza

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ641-MB1	J14169.D	1	07/01/97	AAA	n/a	n/a	VJ641

The QC reported here applies to the following samples:

Method: EPA 524.2

E23143-1, E23143-2

CAS No.	Compound	Result	RDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.17	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.11	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.25	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.27	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	0.27	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.32	ug/l	
127-18-4	Tetrachloroethylene	ND	0.17	ug/l	
79-01-6	Trichloroethylene	ND	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-d4	74% 61-118%
460-00-4	4-Bromofluorobenzene	84% 65-116%

Method Blank Summary

Page 1 of 1

Job Number: E23143

Account: CRAIL Conestoga-Rovers & Associates

Project: Playfield Plaza

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ641-MB2	J14179.D	1	07/02/97	AAA	n/a	n/a	VJ641

The QC reported here applies to the following samples:

Method: EPA 524.2

VJ641-BS, E23143-1MS, E23143-1MSD

CAS No.	Compound	Result	RDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.17	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.11	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.25	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.27	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	0.27	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.32	ug/l	
127-18-4	Tetrachloroethylene	ND	0.17	ug/l	
79-01-6	Trichloroethylene	ND	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-d4	84%
460-00-4	4-Bromofluorobenzene	61-118% 65-116%

